Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

(FINAL)
Conditional Major, Construction / Operating
Permit: F-03-012 R1
Polymer Partners
Henderson, KY 42420
March 9, 2007
Julian D. Breckenridge, Reviewer

SOURCE ID: 21-101-00125
SOURCE A.I. #: 1831
ACTIVITY ID: APE20060001

SOURCE DESCRIPTION:

The Polymer Partners (previously named Clariant) located at Henderson, Kentucky, manufactures black plastic color concentrates through a process of compounding various polymer resins with carbon black, calcium carbonate and/or other filler materials. Physical processes taking place include pneumatically feeding raw materials from silos and dump stations equipped to handle super sacks of carbon black and plastic resins into hoppers on the compounding lines. Thermal processes include the heating of the polymer resin and additives to product specific temperature and mixing in the compounding line. The finished product is fed to a pelletizer and dewatering system.

The source is currently classified as Conditional Major. The source has applied for permit renewal for conditional major status under 401 KAR 52:030, federally enforceable permits. The following table describes different emission points present at the facility.

Emission Point	Process Description	Basis for PTE	Construction Date
001-01	Dump station for CP-45 FCM	1000 lbs/hr of material process rate	Aug 1997
001-02	Feed station for CP-45 FCM	1000 lbs/hr of material process rate	Aug 1997
001-03	CP-45 Ferrel Continuous Mixer (FCM)	1000 lbs/hr of material process rate	Aug 1997
001-04	Dump station for #6 FCM	2000 lbs/hr of material process rate	Feb 1998
001-05	Additive station for #6 FCM	2000 lbs/hr of material process rate	Feb 1998
001-06	Feed station for #6 FCM	2000 lbs/hr of material process rate	Feb 1998
001-07	#6 FCM	2000 lbs/hr of material process rate	Feb 1998
001-08	Dump station for #9 FCM	5000 lbs/hr of material process rate	Mar 1998
001-09	Additive station for #9 FCM	5000 lbs/hr of material process rate	Mar 1998
001-10	Feed station for #9 FCM	5000 lbs/hr of material process rate	Mar 1998
001-11	#9 FCM	5000 lbs/hr of material process rate	Mar 1998
001-12	Blending silo #1	5000 lbs/hr of material process rate	Aug 1997
001-13	Blending silo #2	5000 lbs/hr of material process rate	Aug 1997
001-14	Schick loading hopper	5000 lbs/hr of material process rate	Aug 1997
001-15	Finished product load station #1	5000 lbs/hr of material process rate	Aug 1997
001-16	Finished product load station #2	5000 lbs/hr of material process rate	Aug 1997
002-01	Dump station for line #23 FCM	500 lbs/hr of material process rate	Aug 1999
002-02	Feed station for line #23 FCM	500 lbs/hr of material process rate	Aug 1999
002-03	Line #23 FCM	500 lbs/hr of material process rate	Aug 1999
002-04	100 ft^3 ribbon blender	2000 lbs/hr of material process rate	Aug 1997
003-01	Six Outdoor silos	8000 lbs/hr of material process rate	Aug 1997
004-01	Rail car unloading	2500 lbs/hr of material process rate	Aug 1997
-	Pneumatic conveying system**	Insignificant activity	-
-	Boy 22T lab molding machine**	Insignificant activity	-
-	Cook off oven**	Insignificant activity	-

***Note: 001 – Process Room #2, 002 – Process Room #1, 003 – Six Outdoor Silos, and 004 – Rail Car Unloading**

MINOR REVISION (F-03-012 R1) – ADDITION OF NEW FACILITIES AND CHANGES IN PROCESSES

On July 21, 2006 the Division of Air Quality received an application for a minor revision to add new facilities and to change process rates in existing facilities. The following table below displays an updated list of the plant-wide equipment based from the latest application. Changes to the material process rates are highlighted.

Emission Point	Process Name	Basis for PTE	Construction Date
001-01	CP-45 Dump Station	1000 lbs/hr of material process rate	Aug 1997
001-02	CP-45 Feed Station	1000 lbs/hr of material process rate	Aug 1997
001-03	CP-45	1000 lbs/hr of material process rate	Aug 1997
001-04	#6 FCM Dump Station	2000 lbs/hr of material process rate	Feb 1998
001-05	#6 FCM Additive Station	2000 lbs/hr of material process rate	Feb 1998
001-06	#6 FCM Feed Station	2000 lbs/hr of material process rate	Feb 1998
001-07	#6 FCM	2000 lbs/hr of material process rate	Feb 1998
001-08	#9 FCM Dump Station	8000 lbs/hr of material process rate	Mar 1998
001-09	#9 FCM Additive Station	8000 lbs/hr of material process rate	Mar 1998
001-10	#9 FCM Feed Station	8000 lbs/hr of material process rate	Mar 1998
001-11	#9 FCM	8000 lbs/hr of material process rate	Mar 1998
001-12	Blending Silo #1	8000 lbs/hr of material process rate	Aug 1997
001-13	Blending Silo #2	8000 lbs/hr of material process rate	Aug 1997
001-14	Schick Loading Hopper	8000 lbs/hr of material process rate	Aug 1997
001-15	Finished Product Load Station #1	8000 lbs/hr of material process rate	Aug 1997
001-16	Finished Product Load Station #2	8000 lbs/hr of material process rate	Aug 1997
002-01	Line 23 Dump Station	500 lbs/hr of material process rate	Aug 1999
002-02	Line 23 Feed Station	500 lbs/hr of material process rate	Aug 1999
002-03	Line 23	500 lbs/hr of material process rate	Aug 1999
002-04	100 cu ft Ribbon Blender	6000 lbs/hr of material process rate	Aug 1997
002-05	PR-45-2 Dump Station	1000 lbs/hr of material process rate	Nov 2006
002-06	PR-45-2 Feed Station	1000 lbs/hr of material process rate	Nov 2006
002-07	PR-45-2	1000 lbs/hr of material process rate	Nov 2006
002-08	#63 Twin Screw Dump Station	1000 lbs/hr of material process rate	Nov 2006
002-09	#63 Twin Screw Feed Station	1000 lbs/hr of material process rate	Nov 2006
002-10	#63 Twin Screw	1000 lbs/hr of material process rate	Nov 2006
003-01	Six (6) Outdoor Silos	44000 lbs/hr of material process rate	Aug 1997
004-01	Rail Car Unloading	5000 lbs/hr of material process rate	Aug 1997
-	Pneumatic conveying system	Insignificant Activity	-
-	Boy 22T lab molding machine	Insignificant Activity	-
-	Cook off oven	Insignificant Activity	-
-	Scrap Re-grinder	Insignificant Activity	-
-	55 lb Bagger	Insignificant Activity	-

***Note: 001 – Process Room #2, 002 – Process Room #1, 003 – Six Outdoor Silos, and 004 – Rail Car Unloading**

COMMENTS:

Type of controls for different emission points and their control efficiency:

Emission Point	Type of control, Control efficiency
001-01	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-02	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-03	None
001-04	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-05	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-06	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-07	None
001-08	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-09	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-10	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
001-11	None
001-12	Dacron polyester baghouse, 99.9% removal
001-13	Dacron polyester baghouse, 99.9% removal
001-14	None
001-15	None
001-16	None
002-01	Polyester felt filter bags, 99.9% removal
002-02	Polyester felt filter bags, 99.9% removal
002-03	None
002-04	None
002-05	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
002-06	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
002-07	None
002-08	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
002-09	Two filter units w/ bank of six filters with secondary baghouse control, 99.9% removal
002-10	None
003-01	Dacron polyester filter baghouse, 99.9% removal
004-01	Dacron polyester filter baghouse, 99.9% removal

***Note: 001 – Process Room #2, 002 – Process Room #1, 003 – Six Outdoor Silos, and 004 – Rail Car Unloading**

The highlighted cells in the above table are the addition of new emission points from the permit minor revision.

Emission factors and their source:

AP 42 Volume 1: Stationary point sources, Fifth edition, Section 6.6.2 Plastics, was used to estimate emission factors for uncontrolled plastic resins during different processing operations and then engineering estimate based on maximum amount of plastics processed was used to calculate emission factors for controlled plastic resin emissions.

Engineering Estimate using maximum amount of carbon black that can be fed into the different emission points was used to estimate emission factors for controlled carbon black emissions.

Applicable Regulations:

401 KAR 59:010, New process operations, applies to the above emission points because these are process operations that were commenced after July 2, 1975 and are not subject to another emission standard with respect to particulates in the above mentioned chapter.

401 KAR 52:030, Federally enforceable permits for non-major sources.

401 KAR 63:020, Potentially hazardous matter or toxic substances.

EMISSION AND OPERATING CAPS DESCRIPTION:

The actual emission of HAPS for a single pollutant is limited to stay below 9.0 tons per year. The combined emissions for HAPs are limited to stay below 22.5 tons per year. The actual VOC emissions are limited to stay below 90.0 tons per year. Emission limitations for particulate matter are pursuant to regulation 401 KAR 59:010, Section 3 (2). Compliance with annual limitations is based on emissions from any consecutive twelve-month period for the entire source.

CREDIBLE EVIDENCE:

This permit contains provisions, which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.